UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/128,251	08/03/1998	IZUMI MATSUI	B208-975	2424

26272	7590	04/23/2004

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EXAMINER
CHIEU, PO LIN

ART UNIT	PAPER NUMBER
2615	

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _13 February 2004_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-12 and 15-34_ is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-12 and 15-34_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☒ All   b)☐ Some * c)☐ None of:
      1.☒ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/12/04 has been entered.

Response to Arguments

2.   Applicant's arguments with respect to claims 1-13 and 15-34 have been considered but are moot in view of the new ground(s) of rejection.

Priority

3.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-6, 11-15, 20-21, 25, and 29-34 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Takemoto et al (5,065,246) in view of Kuba et al (5,806,072)

and Lee et al (5,126,832).

Regarding claim 1, Takemoto et al discloses inputting means for inputting a video

signal (35, fig. 7); encoding means for encoding to compress an amount of information

of the video signal (47 and 48); generating means for generating a character signal (57);

control means (46) for controlling a combination operation of the character signal (col. 8,

lines 29-49); and memory means (col. 8, lines 29-49) connected to each of the encoding

means and generating means and having a common memory for storing the video

signal and storing the character signal generated by the generating means to perform a

combining operation of the character signal (col. 2, lines 54-64). Although the

generating means is not directly connected to the memory means, the generating

means is considered to be connected to the memory means because they are part of

the same circuit and are indirectly connected. However, Takemoto et al does not

disclose that the memory is used to perform an encoding process; and using a

predetermined table value corresponding to a control signal by the control means to

perform the combining operation of the character signal.

Kuba et al teaches using a memory to perform compression (col. 21, lines 4-12).

Lee et al teaches using a predetermined table value corresponding to a control

signal by the control means to perform the combining operation of the character signal

(col. 3, line 10 – col. 6, line 56). An incoming video signal is analyzed, a complimentary

color for the characters is selected (using a predetermined table), and the video signal and the character signal are combined.

It would have been highly desirable to use a memory to perform compressing because error correction features (e.g. shuffling) require the use of a memory. It would have been highly desirable to use a predetermined table value so that the character signal combined with the video signal could easily be viewed when combined with the video signal (col. 1, lines 14-28).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have a memory for performing compression; and a predetermined table value in the device of Takemoto et al.

Regarding claim 2, Takemoto et al discloses a combining means for combining the character signal generated by the generating means with the video signal (col. 2, lines 54-64).

Regarding claims 3 and 4, Takemoto et al discloses compressing an amount of information of a video signal outputted from the combining means (col. 8, lines 42-46); and an outputting means (34, fig. 7).

Although a recorder is not shown connected to the output, it is well known in the art to connect a recorder to the output of a device to record the video data on a recording medium.

It would have been highly desirable to compress the video signal outputted from the combining means to reduce the amount of video and character information, thereby requiring less storage capacity if the data is recorded or less bandwidth if the data is

transmitted. It would have been highly desirable to record the data on a recording medium so that the data can be stored for future use or transferred to a different type of medium.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to compress and record the data in the device of Sakamoto et al.

Regarding claim 5, Takemoto et al discloses outputting means (34, fig. 7) for outputting a video signal outputted from the combining means to a display device (col. 9, lines 10-17), the display device displaying an image represented by the video signal outputted from the outputting means (fig. 9F).

Regarding claim 6, Takemoto et al discloses that the combining means combines the character signal with a video signal captured by the image pickup means (35, fig. 7).

Regarding claim 11, Takemoto et al discloses performing discrete cosine transform (col. 4, lines 47-67). However, Takemoto et al does not disclose quantizing means and variable length coding means.

MPEG is a well known recording format for video data. Further, it is well known in the art that MPEG compression uses orthogonal transform means, quantization means, and variable length coding means.

It would have been highly desirable to use MPEG compression because it is an established standard that is commonly used, and it is also an efficient compression technique.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use MPEG compression in the device of Takemoto et al.

Regarding claim 12, 20, and 29, Takemoto et al discloses inputting means for inputting a compressed video signal (47 and 48); expanding and compressing means (47 and 48) for expanding and compressing an amount of information of the video signal and outputting the video signal (34); generating means for generating a character signal (57); control means (46) for controlling the combination operation of the character signal (col. 8, lines 29-49); and memory means (col. 8, lines 29-49) connected to each of the expanding means, compressing means, recording means, and generating means and having a common memory for storing the compressed video signal and storing the character signal generated by the generation means to perform a combining operation (col. 2, lines 54-64). However, Takemoto et al does not disclose recording means; using the memory means to perform compression and expansion processes; and using a predetermined table value corresponding to a control signal by the control means to perform the combining operation of the character signal.

Kuba et al teaches using a memory to perform compression (col. 21, lines 4-12). Since an expanding process is the reverse operation of a compression operation it would have been obvious to use a memory for expansion as well.

Lee et al teaches using a predetermined table value corresponding to a control signal by the control means to perform the combining operation of the character signal (col. 3, line 10 – col. 6, line 56). An incoming video signal is analyzed, a complimentary

color for the characters is selected (using a predetermined table), and the video signal and the character signal are combined.

As discussed in the art rejection of claims 3 and 4, it would have been obvious to have a recording medium. Although the recording means and generating means are not directly connected to the memory means, they are part of the same circuit and are indirectly connected to the memory means.

It would have been highly desirable to use a memory for compression and expansion so that processing that requires the use of a buffer can be performed. It would have been highly desirable to have a recording means so that the data could be stored for later reproduction. It would have been highly desirable to use a predetermined table value so that the character signal combined with the video signal could easily be viewed when combined with the video signal (col. 1, lines 14-28).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to have the compression and expanding means use the memory means; a recording means; and to use a predetermined table value in the device of Takemoto et al.

Regarding claim 13, Takemoto et al discloses a combining means for combining the character signal generated by the generating means with the video signal (col. 2, lines 54-64 and fig. 9F).

Regarding claim 15, Takemoto et al discloses an outputting means for outputting a video signal outputted from the combining means to a display device (fig. 9F, col. 9,

lines 1-17), the display device displaying an image represented by the expanded video signal outputted by the expanding means.

Regarding claims 21 and 25, Takemoto et al discloses performing discrete cosine transform during the coding operation. Further as discussed in the art rejection of claim 11, MPEG coding is well known in the art; MPEG coding is considered to be a high-efficiency encoding means; and a MPEG decoding is considered to be a high efficiency decoding means. It would have been highly desirable to use MPEG coding and decoding because it is a commonly accepted standard and reduces the amount of data capacity needed without degrading quality. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to used MPEG coding and decoding in the device of Takemoto et al.

Regarding claim 30, Takemoto et al discloses a combining means for combining the character signal with the video signal (col. 2, line 54-64, fig. 9F).

The limitations of claim 31 were discussed in the art rejection of claims 3-4. Please refer to the art rejection of claim 3-4.

Regarding claim 32, Takemoto et al discloses a display means for displaying an image represented by the combined video signal outputted from the combining means (col. 9, lines 10-20).

Regarding claim 33, Takemoto et al discloses reproducing means for reproducing from the recording medium (discussed in the art rejection of claim 29) the compressed video signal compressed by the compressing means, and for writing the reproduced video signal into the memory means (col. 8, lines 29-49).

Regarding claim 34, Takemoto et al discloses expanding means for expanding an amount of information of the reproduced video signal by using the memory means (47 and 48); and combining means for combining the character signal with the video signal the amount of which has been expanded by the expanding means (col. 2, lines 54-64, fig. 9F).

6.   Claims 7-8, 17, 22-24, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemoto et al in view of Kuba et al, Lee et al, and Jeong (6,130,988).

Regarding claims 7-8, Takemoto et al discloses using a memory for storing a video signal, compression, and generating a character signal. However, Takemoto et al does not disclose a first, second, and third area; and reading out from the second area and outputting the read out video signal to a recording device for recording on a recording medium.

Jeong teaches partitioning a memory into separate areas to be used for separate processes (fig. 3). Since Takemoto et al uses a single memory for storing video, compressed video, and character generation; it would have been obvious to partition the memory into separate areas for storing video; compressed video; and character data. (note: the examiner does not believe that the limitations require character data in the third area; however, this limitation has been met in the rejection).

Further, outputting the compressed signal to a recording device for recording on a recording medium is obvious, as discussed in the art rejection of claim 4. Please refer to the art rejection of claim 4.

It would have been highly desirable to partition the memory so that the device does not require separate memories for each process performed; and so that an area is allocated in the memory to perform each process preventing complicated management of data for different processes and/or interference from other processes using the memory at the same time.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to partition the memory and provide the signal to a recorder in the device of Takemoto et al.

Regarding claim 17, Takemoto et al does not disclose a first, second, and third area.

As discussed in the previous art rejection, Jeong teaches separating a memory into several areas to be used for different purposes (fig. 3). It would have been obvious to have a first area storing video; a second area storing the expanded video; and a third area.

It would have been highly desirable to partition the memory so that the device does not require separate memories for each process performed; and so that an area is allocated in the memory to perform each process preventing complicated management of data for different processes and/or interference from other processes using the memory at the same time.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to partition the memory and provide the signal to a recorder in the device of Takemoto et al.

Regarding claims 22 and 26, as discussed in previous rejections, a memory means with a first area and a second area for character generation (art rejection of claim 7); and a high efficiency coding means (art rejection of claim 21). Please refer to the art rejection of claims 7 and 21. If high efficiency coding is performed, then high efficiency decoding must be performed when the data is reproduced. Making it obvious to have a high efficiency decoding means using a first area for expanding the video signal.

It would have been highly desirable to have a high efficiency coding/decoding means so that the device would require less recording capacity to record data; and so that the compressed data could also be reproduced.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention of have a high efficiency coding/decoding means in the device of Takemoto et al.

Regarding claims 23-24 and 27-28, Takemoto et al does not disclose error correction encoding (ECC) the encoded video signal.

Jeong teaches error correction decoding data (fig. 3). Error correction is a well known process applied to digital data such as MPEG to reduce errors during recording and/or reproduction. The first and third areas were discussed in the art rejection of claims 7 and 17 (please refer to the art rejection of claims 7 and 17). Jeong teaches a second area to be accessed by the error correction decoding means, suggesting the data was previously error correction encoded. It would have been obvious to have an

error correction encoder/decoder using a second area of the memory means to error

correct the video signal.

It would have been highly desirable to have an error correction encoding/

decoding means using a second area so that the video signal is error corrected to

remove errors, which create noise in the video signal.

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention to have an error correction encoder/decoder using a second

area in the device of Takemoto et al.

7.   Claims 9-10 and 18-19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Takemoto et al in view of Kuba et al, Lee et al, Jeong, and Honda

(6,181,878).

Regarding claims 9 and 18, Takemoto et al does not disclose a first and second

area in the memory.

As discussed in the art rejection of claim 7, Jeong's teachings make a first area

to be accessed by the compression or expanding means and a second area (discloses

as the third area in claim 7) in which a character signal is stored obvious. Clearly the

character signal must also store information on where the character data will be placed

in the image plane; therefore, it is inherent that the second area corresponds to an

image plane represented by the video signal. Further Takemoto et al teaches

generating character data (fig. 9F), which must represent a value of pixel data, and

storing it into a second area (discussed above). Takemoto et al does not disclose a

table for outputting pixel data corresponding to the codes read out from the second

area.

Honda teaches a table (17, fig. 1) outputting pixel data in figure 3 corresponding

to codes. For example, if the code "10" is input from table B then the text

"CALIFORNIA" is generated.

It would have been highly desirable to have a second area in which pixel data is

written so that text can be overlaid on an image. In addition, a table would be desirable

so that a table of pre-stored text could be used to easily generate commonly used text.

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of the invention have a second area and a table in Takemoto et al.

Regarding claims 10 and 19, Takemoto et al discloses combining means for

combining the character signal generated by the generating means with the video signal

(col. 2, lines 54-64), the codes representing control data for controlling a combining

operation of the combining means, the combining means performing the combining

operation in accordance with the codes (Honda, fig. 3). The table with the codes is

stored in a ROM (17, fig. 1), and one of ordinary skill in the art recognizes that the

codes can be considered to be control data for controlling the combining operation.

Since the code is stored and the actual text data is not, the codes must be used to look

up the text data in the table to combine the character data with the video data.

8.   Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Takemoto et al in view of Kuba et al, Lee et al, and Abe et al (5,515,174).

Regarding claim 16, Takemoto et al discloses writing the reproduced video signal into the memory means (col. 8, lines 29-49), the expanding means (47 and 48) expanding an amount of information of the compressed video signal written into the memory means by the inputting means. Takemoto et al does not disclose that the inputting means for inputting the compressed video signal reproduced from a recording medium by a reproduction device.

Abe et al teaches inputting a video signal reproduced from an external input signal (col. 1, lines 41-51), which could be from a recording medium by a reproduction device. Further digital video recording is well known in the art (i.e. MPEG).

It would have been highly desirable to record from an external input so that the device could copy data to another recording medium.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to input a video signal reproduced from a recording medium in the device of Takemoto et al.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Akasawa et al and Tsukagoshi et al disclose using color tables for character data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Polin Chieu whose telephone number is (703) 308-6070. The examiner can normally be reached on M-Th 8:00 AM-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Andrew B. Christensen can be reached on (703) 308-9644. The fax phone

numbers for the organization where this application or proceeding is assigned are (703)

872-9314 for regular communications and (703) 872-9314 for After Final

communications.

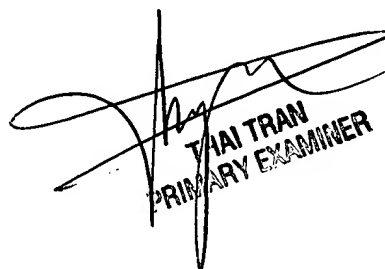Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the Technology Center 2600 Customer Service Office

whose telephone number is (703) 306-0377.

PC
April 19, 2004

THAI TRAN
PRIMARY EXAMINER